



Massachusetts Department of Environmental Protection
Source Water Assessment and Protection (SWAP) Report
for
Turner's Falls Water Department

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- inventory land uses within the recharge areas of all public water supply sources;
- assess the susceptibility of drinking water sources to contamination from these land uses; and
- publicize the results to provide support for improved protection.

Susceptibility and Water Quality

Susceptibility is a measure of a water supply's potential to become contaminated due to land uses and activities within its recharge area.

A source's susceptibility to contamination does *not* imply poor water quality.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, disinfecting, filtering, or treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Actual water quality is best reflected by the results of regular water tests. To learn more about your water quality, refer to your water supplier's annual Consumer Confidence Reports.

Table 1: Public Water System Information

<i>PWS Name</i>	Turner's Falls Water Department
<i>PWS Address</i>	226 Millers Falls Road
<i>City/Town</i>	Montague
<i>PWS ID Number</i>	1192000
<i>Local Contact</i>	Mr. Michael S. Brown
<i>Phone Number</i>	413-863-4542

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential contaminant sources, including storm runoff, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination, the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Refer to Table 3 for Recommendations to address potential sources of contamination. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes the following sections:

1. Description of the Water System
2. Land Uses within Protection Areas
3. Source Water Protection
4. Appendices

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and a Zone II protection area.



Glossary

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material (i.e. clay) that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. This area should be owned or controlled by the water supplier and limited to water supply activities.

Zone II: The primary recharge area for the aquifer. This area is defined by hydrogeologic studies that must be approved by DEP. Refer to the attached map to determine the land within your Zone II.

Section 1: Description of the Water System

System Susceptibility:

High

Groundwater Sources

<i>Zone II # 206</i>	<i>Susceptibility: High</i>
Well #1 and Satellite well	1192000-01G
Well #2	1192000-02G

Turner's Falls is one of several villages within the Town of Montague, an industrial/agricultural and growing, rural residential community in western Massachusetts. Turner's Falls Water Department maintains two groundwater sources for the village's drinking water supply: Well #1 and its satellite well (1192000-01G) and Well #2 (1192000-02G). Source 01G consists of Well #1, a 26x34-inch diameter gravel packed well and an 8-inch diameter gravel developed well that withdraw water from a confined aquifer located in the central part of town. The wells (01G) serve as the main supply, are approximately 115 and 110 feet deep, respectively and have a combined, historical pumping capacity of approximately 765 gallons per minute (gpm). Well #2 (02G) is a 187-foot deep, 18 x 36-inch diameter gravel packed well, installed in 1992. Well #2 has an approved withdrawal rate of 1,500 gpm. The wells are located within a deep, pre-glacial, buried valley sand and gravel aquifer that is confined in the immediate vicinity of the wells but partially confined throughout other portions of the aquifer. Due to the presence of iron and manganese in the water, the well water is chlorinated and filtered through green sand filters that are periodically injected with potassium permanganate. The Zone II for Well #2 was delineated through the new source approval process utilizing hydrogeologic mapping and analytical modeling. Well #1 and the satellite well were incorporated within that Zone II through the SWAP program. The Department also maintains the Lake Pleasant and Green Pond reservoirs as emergency sources. These sources will not be further assessed within this report.

The wells are located within a glacially deepened, bedrock valley that was buried with sand, gravel and in some areas clay during the recession (melting) of the glaciers some 10,000 before present. Meltwater laid down coarse sand and gravel that was overlain with fine silt and clay where glacial lakes were formed. Glacial Lake Hitchcock was formed through much of the Connecticut River valley from southern Vermont to central Connecticut. Sediment laden meltwater deltas such as the Montague Plains, were formed into the lake leaving coarse grained materials at the deltas and along the shoreline. Finer grained deposits were carried to deeper quiescent waters and settled to the lake bottom forming the aquifer's confining clay unit. After the glacial lake drained, more recent deposits were laid down over the clay unit. The wells are located within the confined portion of the aquifer however, boring logs show evidence of unconfined areas along the boundaries of the aquifer. The aquifer is considered to be highly vulnerable to contamination because although the wells are located beneath a protective clay unit, the clay is discontinuous and does not exist throughout the majority of the recharge area of the aquifer to the south and along the edges of the aquifer.

Each well has a 400 feet protective Zone I radius. Aquifer parameters were determined from multiple, extended duration pumping tests and the Zone II for the wells was delineated based on conceptual and analytical modeling in conjunction with geological mapping. Please refer to the attached map to view the boundaries of each Zone II. For current information on water quality monitoring results, please refer questions to the Public Water System contact person listed above in Table 1 for a copy of the most recent Consumer Confidence Report.

Section 2: Land Uses in the Protection Areas

The land uses within the Zone IIs of the Turner's Falls wells are a mixture of commercial, residential and agricultural areas (refer to attached map for details). Although some areas of Montague are served by the Town municipal sewer system, the entire Zone II area is served by on-site septic disposal. Land uses and activities that are potential sources of contamination are listed in Table 2, with further detail provided in the Tables of Regulated Facilities attached in Appendix B.

Key Land Uses and Protection Issues include:

1. Residential land uses
2. Transportation corridors
3. Hazardous materials storage and use
4. Underground Injection Control
5. Protection Planning
6. Agricultural activities
7. Sewer Pipeline and Wastewater Treatment Facility

Although there are many safeguards in place, the overall susceptibility ranking to contamination of the groundwater supplies is high, based on the presence of numerous high ranking threat land uses within the Zone II water

supply protection areas, as seen in Table 2.

Massachusetts drinking water regulations (310 CMR 22.00 Drinking Water) requires public water suppliers to control the Zone I through ownership or some other mechanism such as a conservation restriction. Only water supply activities are allowed in the Zone I. The Turner's Falls Water Department owns the entire Zone I for both sources. The MA DEP commends the Water Department for its proactive approach to source protection by installing secondary containment in the well house as a result of this assessment and closing out a floor drain.

✓ Continue your current use of BMPs for the storage, use, and disposal of hazardous materials such as water supply chemicals and maintenance chemicals and monitor all chemical deliveries.

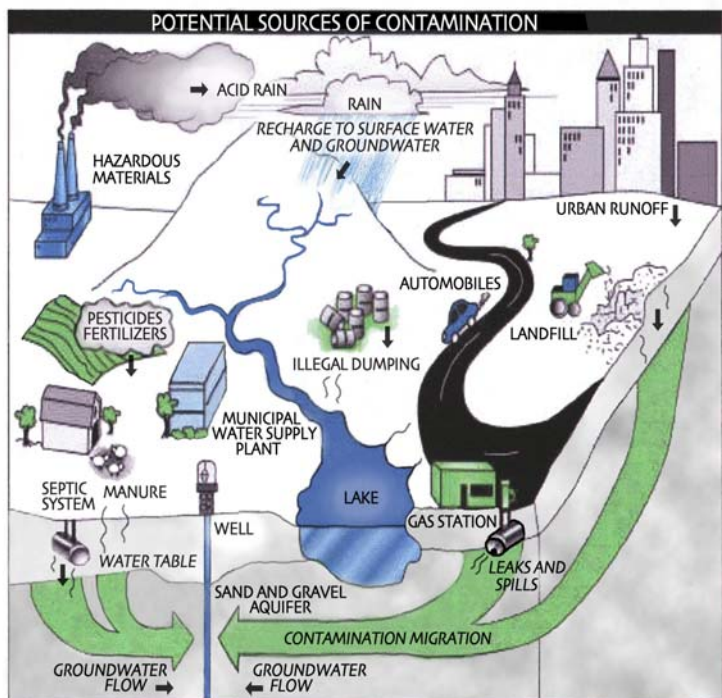
2. Residential Land Uses – Approximately 11% of the Zone II area

Benefits of Source Protection

Source Protection helps protect public health and is also good for fiscal fitness:

- Protects drinking water quality at the source
- Reduces monitoring costs through the DEP Waiver Program
- Treatment can be reduced or avoided entirely, saving treatment costs
- Prevents costly contamination clean-up
- Preventing contamination saves costs on water purchases, and expensive new source development

Contact your regional DEP office for more information on Source Protection and the Waiver Program.



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consists of residential land use. Although some of the community is served by municipal sewer, the entire Zone II utilizes on-site septic disposal. If managed improperly, activities associated with residential areas can contribute to drinking water contamination. Common potential sources of contamination include:

- **Septic Systems** – Improper maintenance and disposal of household hazardous chemicals to septic systems is a potential source of contamination to the groundwater because septic systems discharge directly to the ground. If septic systems fail or are not properly maintained they could be a potential source of microbial contamination.
- **Household Hazardous Materials** - Hazardous materials may include petroleum products for automotive and lawn care, paints, solvents, pesticides, fertilizers, and other substances. Improper use, storage, and disposal of chemical products used in homes are potential sources of contamination.
- **Heating Oil Storage** - If managed improperly, Underground and Aboveground Storage Tanks (UST and AST) can be potential sources of contamination due to leaks or spills of the fuel oil they store.
- **Stormwater** – Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets and lawns. Common potential contaminants include lawn chemicals, pet waste, and contaminants from automotive leaks, maintenance, washing, or accidents.



Residential Land Use Recommendations:

- ✓ Educate residents on best management practices (BMPs) for protecting water supplies. Distribute the fact sheet "Residents Protect Drinking Water" available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMPs for common residential issues.
- ✓ Continue working with Town planners to manage and control new residential developments in the water supply protection areas.
- ✓ Promote BMPs for stormwater management and pollution controls. Continue catch basin cleaning routines.

2. Transportation Corridors – The Zone II has numerous roads throughout. State Route 63 run along the eastern edge of the Zone II and a portion of Route 47 runs through the southern portion of the Zone II. Roadway construction, maintenance, and typical highway use can all be potential sources of contamination. Accidents can lead to spills of gasoline and other potentially dangerous transported chemicals. Roadways are frequent sites for illegal dumping of hazardous or other potentially harmful wastes and de-icing salt, automotive chemicals and other debris on roads are picked up by stormwater and wash into catch basins.

Transportation Corridor Recommendations:

- ✓ **Emergency response**—Work with local emergency response teams to ensure that any spills within the Zone II can be effectively contained and be sure that the Emergency Responders are aware of the recharge area and will notify the Water District in the event of an emergency.
- ✓ **Low Salt Areas** - Submit a formal request to MA Highway Department to establish Low Salt Areas along Route 63 and 47 and consider this same request for local Montague roads. Educate employees and private contractors of the restrictions in designated Low Salt Areas if they are designated.

What are "BMPs?"

Best Management Practices are structural (i.e. oil & grease trap catch basins), nonstructural (i.e. hazardous waste collection days) or managerial measures that are used to protect and improve surface water and groundwater quality.

- ✓ **Planning and Developing** - Be aware of EPA's Intermodal Surface Transportation Efficiency Act. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 contains provision for the planning and developing of highway systems and transportation enhancement activities, including the mitigation of water pollution due to highway runoff. Through ISTEA, states are able to use a portion of their federal funding allotment for runoff pollution control devices and other BMPs to prevent polluted runoff from reaching their lakes, rivers, and bays. Catch basins transport stormwater from roadways and adjacent properties to the ground. As flowing stormwater travels, it picks up debris and contaminants from streets, parking areas and lawns. Common potential contaminants include

Potential Source of Contamination vs. Actual Contamination

The activities listed in Table 2 are those that typically use, produce, or store contaminants of concern, which, if managed improperly, are potential sources of contamination (PSC).

It is important to understand that a release may never occur from the potential source of contamination provided facilities are using best management practices (BMPs). If BMPs are in place, the actual risk may be lower than the threat ranking identified in Table 2. Many potential sources of contamination are regulated at the federal, state and/or local levels, to further reduce the risk.

Table 3: Land Uses and Activities in the Protection Area

For more information, refer to Appendix 2: Regulated Facilities within the Water Supply Protection Area or immediately adjacent to the area.

Activities	Quantity	Threat*	Potential Source of Contamination
Agricultural			
Fertilizer Storage or Use — Crop land	Numerous	M	Fertilizers: leaks, spills, improper handling, or over-application
Pesticide Storage or Use—Crop land	Numerous	H	Pesticides: leaks, spills, improper handling, or over-application
Livestock Operations	2	M	Manure (microbial contaminants): improper handling
Manure Storage or Spreading	Numerous	H	Manure (microbial contaminants): improper handling
Commercial			
Service Stations/ Auto Repair Shops	2	H	Automotive fluids and solvents: spills, leaks, or improper handling
Furniture Stripping and Refinishing/ Window refurbishing	1	H	Hazardous chemicals: spills, leaks, or improper handling
Bus and Truck Terminals	1	H	Fuels and maintenance chemicals: spills, leaks, or improper handling
Car/Truck/Bus Washes	1	L	Vehicle wash water, soaps, oils, greases, metals, and salts: improper management
Sand And Gravel Mining/Washing	3	M	Heavy equipment, fuel storage, clandestine dumping: spills or leaks
Residential			
Fuel Oil Storage (at residences)	Numerous	M	Fuel oil: spills, leaks, or improper handling
Lawn Care / Gardening	Numerous	M	Pesticides: over-application or improper storage and disposal
Septic Systems / Cesspools	Numerous	M	Hazardous chemicals: microbial contaminants, and improper disposal

Activities	Quantity	Threat*	Potential Source of Contamination
Miscellaneous			
Aboveground Storage Tanks	Numerous	M	Materials stored in tanks: spills, leaks, or improper handling
Clandestine Dumping/ junkpiles	1	H	Debris containing hazardous materials or wastes
NPDES Locations	1	L	Various depending on discharge limits
UIC Sites	2	--	Owners are currently conducting closure; contact the regional coordinator for status and information.
Small quantity hazardous waste	Numerous	M	Hazardous materials and waste: spills, leaks, or improper handling or storage
Stormwater Drains/ Retention Basins	Numerous	L	Debris, pet waste, and chemicals in stormwater from roads, parking lots, and lawns
Transportation Corridors	Numerous	M	Fuels and other hazardous materials: accidental leaks or spills; pesticides: over-application or improper handling
Underground Storage Tanks	Unknown	H	Stored materials: spills, leaks, or improper handling

Table 2 Notes:

1. When specific potential contaminants are not known, typical potential contaminants or activities for that type of land use are listed. Facilities within the watershed may not contain all of these potential contaminant sources, may contain other potential contaminant sources, or may use Best Management Practices to prevent contaminants from reaching drinking water supplies.
2. For more information on regulated facilities, refer to Appendix B: Regulated Facilities within the Water Supply Protection Area information about these potential sources of contamination.
3. For information about Oil or Hazardous Materials Sites in your protection areas, refer to Appendix C: Tier Classified Oil and/or Hazardous Material Sites.

* **THREAT RANKING** - The rankings (high, moderate or low) represent the relative threat of each land use compared to other PSCs. The ranking of a particular PSC is based on a number of factors, including: the type and quantity of chemicals typically used or generated by the PSC; the characteristics of the contaminants (such as toxicity, environmental fate and transport); and the behavior and mobility of the pollutants in soils and groundwater.

lawn chemicals, pet waste, leakage from dumpsters, household hazardous waste, and contaminants from leaks, maintenance, washing or accidents.

Stormwater Catch Basins – Recommendations:

- ✓ **Mapping** - If storm drainage maps are available, review the maps with emergency response teams. If maps aren't yet available, work with town officials to prioritize and investigate mapping options such as the upcoming Phase II Stormwater Rule requiring some communities to complete stormwater mapping. Wherever possible, ensure that drains discharge stormwater outside of the Zone II.
- ✓ **Inspect, Maintain, and Clean** - Work with the Town and State to have catch basins inspected, maintained, and cleaned on a regular schedule. Additionally, street and parking lot sweeping reduces the amount of potential contaminants in runoff. Note: Catch basin cleanings are classified as solid waste by DEP and must be handled and disposed in accordance with all regulations, policies, and guidance. In the absence of written approval from DEP, catch basin cleanings must be taken to a facility permitted by DEP to accept solid waste. For information on DEP's Nonpoint Competitive Grants Program Upcoming Funding Opportunity see: <http://www.state.ma.us/dep/brp/mf/mfpubs.htm#wpa>.
- ✓ **Best Management Practices** - Work with the Town to develop Best Management Practices that are the most

effective, practical means of preventing or reducing pollution from nonpoint sources. Information is available at <http://www.epa.gov/OWOW/NPS/roads.html>.

- ✓ **Local Controls** - Encourage local officials to develop a local stormwater ordinance. For more information see <http://www.epa.gov/owow/nps/ordinance/stormwater.htm>.
- ✓ **Storm Drain Stenciling Program** - Work with local watershed groups to institute a Storm Drain Stenciling Program. For more information on how to develop a storm drain stenciling program go to <http://www.earthwater-stencils.com>.
- ✓ **Wellhead Protection Grants** – Consider applying for a Wellhead Protection Grant from DEP for the purpose of addressing stormwater drainage in the Zone II, and for working with the Town to address the “Phase II Stormwater Regulations”.

3. Hazardous Materials Storage, Use and Disposal – Commercial, industrial and mining land uses make up about 8% of the Zone II. Many small businesses and industries use hazardous materials, produce hazardous waste products, and/or store quantities of hazardous materials. If hazardous materials are improperly stored, used, or disposed, they become potential sources of contamination. Hazardous materials should never be disposed of to a septic system, through a floor drain leading directly to the ground or directly to the ground. Unmanaged junkpiles and illegal disposal sites pose a significant threat to the environment.

Hazardous Materials Storage and Use Recommendations:

- ✓ Educate local businesses on best management practices for protecting water supplies. Distribute the fact sheet “Businesses Protect Drinking Water” available in Appendix A and on www.mass.gov/dep/brp/dws/protect.htm, which provides BMP’s for common business issues.
- ✓ Work with local businesses to register those facilities that are unregistered generators of hazardous waste or waste oil. Partnerships between businesses, water suppliers, and communities enhance successful public drinking water protection practices.
- ✓ Work with the local Board of Health to educate local businesses on Massachusetts’ floordrain requirements. See brochure “Industrial Floor Drains” for more information and in development and implementation of Local floor drain regulations and Hazardous Materials handling regulations.
- ✓ Work with the local Board of Health to develop local by-laws for hazardous materials handling and develop an inspection program for facilities that handle, use, store or dispose of hazardous materials.

4. Underground Injection Control – The Zone II contains two open-ended DEP sites related to illegal disposal of waste through a floor drain or dry well. Refer any questions to the UIC Coordinator at the WERO in Springfield or Tony Zaharias 413-755-2122.

UIC Sites Recommendation:

- ✓ Monitor progress on any ongoing testing and potential remedial action conducted for the known oil or contamination sites.

5. Protection Planning – Although the District is in the process of updating the Emergency Response Plan, there are no current plans for developing a protection plan. These types of protection plans coordinate community efforts, identify protection strategies, establish a timeframe for implementation, and provide a forum for public education and outreach. The development of a successful Wellhead Protection Plan is outlined in five steps in DEP’s “Developing a Local Wellhead Protection Plan” (see Appendix A for the full report) as:

- Establish a protection committee or team
- Define the Wellhead Protection Area
- Identify potential sources of contamination
- Protect and manage the wellhead protection area
- Conduct ongoing public education and outreach

The Town does have an Aquifer Protection District By-law, and has requested that the Planning Board amend the by-law to comply with supply protection control regulations 310 CMR 22.21(2). The Town Planner did participate in the SWAP assessment and was instrumental in data acquisition..

Protection Planning Recommendations:

- ✓ Develop a Wellhead Protection Plan. Establish a protection team, and refer them to <http://mass.gov/dep/brp/>

dws/protect.htm for a copy of DEP's guidance, "Developing a Local Wellhead Protection Plan".

- ✓ Coordinate efforts with local officials to compare local wellhead protection controls with current MA Wellhead Protection Regulations 310 CMR 22.21(2). If there are no local controls or they do not meet the current regulations, adopt controls that meet 310 CMR 22.21(2). For more information on DEP land use controls see <http://mass.gov/dep/brp/dws/protect.htm>.
- ✓ If local controls do not regulate floordrains, be sure to include floordrain controls that meet 310 CMR 22.21(2).

6. Agricultural Activities – Crop and pasture lands make up 23% of the Zone II area. In addition there are numerous hobby farmers within the Zone II and Zone III area. Pesticides and fertilizers have the potential to contaminate a drinking water source if improperly stored, applied, or disposed. If not contained or applied properly, animal waste from barnyards, manure pits and field application are potential sources of contamination to ground and surface water. Improper management of hazardous materials pose a potential threat to the groundwater. In some instances, farmers have on-site irrigation wells or use town water for animals or crops.

Agricultural Activities Recommendation:

- ✓ Work with farmers in your protection areas to make them aware of your water supply and to encourage the use of a US Natural Resources Conservation Service farm plan to protect water supplies.
- ✓ Where appropriate, ensure farmers use back-flow prevention devices for connections to public water supplies but also for on-site wells. Inform farmers of BMPs for sanitary seals and back flow prevention for any on-site wells.

Other land uses and activities within the Zone II that have potential for contamination include utility Right-of-way, railroad tracks. Refer to Table 2 and Appendix 2 for more information about these land uses.

**Top 5 Reasons to
Develop a Local Wellhead
Protection Plan**

- ❶ Reduces Risk to Human Health
- ❷ Cost Effective! Reduces or Eliminates Costs Associated With:
 - ♦ Increased groundwater monitoring and treatment
 - ♦ Water supply clean up and remediation
 - ♦ Replacing a water supply
 - ♦ Purchasing water
- ❸ Supports municipal bylaws, making them less likely to be challenged
- ❹ Ensures clean drinking water supplies for future generations
- ❺ Enhances real estate values - clean drinking water is a local amenity. A community known for its great drinking water in a place people want to live and businesses want to locate.

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Section 3: Source Water Protection Conclusions and Recommendations

Current Land Uses and Source Protection:

Although the Zone II contains numerous existing and potential sources of contamination, awareness and source protection measures reduces the risk of actual contamination, as illustrated in Figure 2. Identifying additional potential sources of contamination is an important initial step in protecting your drinking water sources. Further local investigation will provide more in-depth information and may identify new land uses and activities that are potential sources of contamination. Once potential sources of contamination are identified, specific recommendations like those listed above and below should be used to better protect your water supply.

Source Protection Recommendations:

To better protect the sources for the future:

- ✓ Inspect the Zone I regularly, and when install containment for all chemicals stored and used within the Zone I of the wells.
- ✓ Educate residents on ways they can help you to protect drinking water sources.
- ✓ Work with emergency response teams to ensure that they are aware of the boundaries of the Zone II, stormwater drainage in your Zone II and

- ✓ Zone III when responding to spills or accidents.
- ✓ Partner with local businesses to ensure the proper storage, handling, and disposal of hazardous materials.
- ✓ Monitor progress on any ongoing remedial action conducted for the known oil or contamination sites.
- ✓ Communicate with owners/operators of the rights-of-way to ensure Best Management Practices are being used
- ✓ Develop and implement a comprehensive Wellhead Protection Plan.

➤ **Partner with Local Businesses:**

Since many small businesses and industries use hazardous materials and produce hazardous waste products, it is essential to educate the business community about drinking water protection. Encouraging partnerships between businesses, water suppliers, and communities will enhance successful public drinking water protection practices.

➤ **Educate Residents:**

If managed improperly, household hazardous waste, septic systems, lawn care, and pet waste can all contribute to groundwater contamination. Hazardous materials include automotive wastes, paints, solvents, pesticides, fertilizers, and other substances. If a septic system fails or is not properly maintained, it could be a potential source of microbial contamination. Animal waste is also a source of microbial contamination.

➤ **Provide Outreach to the Community:**

Public education and community outreach ensure the long-term protection of drinking water supplies. Awareness often generates community cooperation and support. Residents, the municipal services and business owners are more likely to change their behavior if they know where the wellhead protection recharge area is located; what types of land uses and activities pose threats; and how their efforts can enhance protection.

➤ **Plan for the Future:**

One of the most effective means of protecting water supplies is planning, local include such as the adoption of local controls to protect land use regulations related to watersheds and ground water., These controls may include health ordinances/regulations, no discharge prohibitions general ordinances, and zoning bylaws that prohibit potential sources of contamination from wellhead protection areas.

Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. These recommendations are only part of your ongoing local drinking water source protection.

➤ **Resources for Drinking Water Source Protection:**

These recommendations are only part of your ongoing local drinking water source protection. Additional source protection recommendations are listed in Table 3, the Key Issues above and Appendix A.

DEP staff, informational documents, and resources are available to help you build on this SWAP report as you continue to improve drinking water protection in your community. The Department's Wellhead Protection Grant Program and Source Protection Grant Program provide funds to assist public water suppliers in addressing water

For More Information

Contact Catherine V. Skiba in DEP's Springfield Office at (413) 755-2119 for more information and assistance on improving current protection measures.

Copies of this report have been provided to the public water supplier and town boards.

supply source protection through local projects. Protection recommendations discussed in this document may be eligible for funding under the Grant Program. Please note: each spring DEP posts a new Request for Response for the grant program (RFR).

Other grants and loans are available through the Drinking Water State Revolving Loan Fund, the Clean Water State Revolving Fund, and other sources. For more information on grants and loans, visit the Bureau of Resource Protection's Municipal Services web site at: <http://mass.gov/dep/brp/mf/mfpubs.htm>.

Conclusions:

The assessment and protection recommendations in this SWAP report are provided as a tool to encourage community discussion, support ongoing source protection efforts, and help set local drinking water protection

priorities. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures. The water supplier should supplement this SWAP report with local information on potential sources of contamination and land uses. Local information should be maintained and updated periodically to reflect land use changes in the Zone II. Use this information to set priorities, target inspections, focus education efforts, and to develop a long-term drinking water source protection plan.

Section 4: Appendices

- A. Protection Recommendations
- B. Regulated Facilities within the Water Supply Protection Area
- C. Additional Documents on Source Protection

Table 3: Current Protection and Recommendations

Protection Measures	Status	Recommendations
Zone I		
Does the Public Water Supplier (PWS) own or control the entire Zone I?	YES	Follow Best Management Practices (BMP's) that focus on good housekeeping, spill prevention, and operational practices to reduce the use and release of hazardous materials.
Is the Zone I posted with "Public Drinking Water Supply" Signs?	YES	Additional economical signs are available from the Northeast Rural Water Association (802) 660-4988.
Is Zone I regularly inspected?	YES	Continue daily inspections of drinking water protection areas.
Are water supply-related activities the only activities within the Zone I?	YES	Continue monitoring non-water supply activities in Zone Is.
Municipal Controls (Zoning Bylaws, Health Regulations, and General Bylaws)		
Does the municipality have Wellhead Protection Controls that meet 310 CMR 22.21(2)?	Partially	The Town's "Aquifer Protection District" by law has recently been updated and meets DEP's best efforts for wellhead protection. Refer to www.state.ma.us/dep/brp/dws/ for model by laws and health regulations, and current regulations for any future updates.
Do neighboring communities protect the Zone II areas extending into their communities?	NO	Work with neighboring municipality of Sunderland to include portions of the Zone II in their wellhead protection controls.
Planning		
Does the PWS have a Wellhead Protection Plan?	NO	Develop a wellhead protection plan. Follow "Developing a Local Wellhead Protection Plan" available at: www.state.ma.us/dep/brp/dws/ . Include the Montague Center Water District in community planning efforts.
Does the PWS have a formal "Emergency Response Plan" to deal with spills or other emergencies?	In progress	Augment plan by developing a joint emergency response plan with fire department, Board of Health, DPW, and local and state emergency officials. Coordinate emergency response drills with local teams.
Does the municipality have a wellhead protection committee?	NO	Develop a committee as part of the wellhead protection planning process. Include modification and improvement of existing by laws, regulation and inspection programs as appropriate.
Does the Board of Health conduct inspections of commercial and industrial activities?	NO	For more guidance see "Hazardous Materials Management: A Community's Guide" at www.state.ma.us/dep/brp/dws/files/hazmat.doc
Does the PWS provide wellhead protection education?	NO	Aim additional efforts at commercial, industrial and municipal uses within the Zone II.

APPENDIX B: REGULATED FACILITIES WITHIN THE WATER SUPPLY PROTECTION AREA

DEP Permitted Facilities

DEP Facility Number	Facility Name	Street Address	Town	Permitted Activity	Activity Class	Facility Description
134176	Stone's Equipment Repair	Federal Street	Montague	Generator of Hazardous Waste	Very Small Quantity Generator	Auto – Sales and Service
279722	Red Wing Meadow Trout Farm	North Leverett Road	Montague	Generator of Hazardous Waste	Very Small Quantity Generator NPDES	Fish Hatchery

Note: This appendix includes only those facilities within the water supply protection area(s) that meet state reporting requirements and report to the appropriate agencies. Additional facilities may be located within the water supply protection area(s) that should be considered in local drinking water source protection planning.